ZIMMER™ Tissue Bank Dermatome FOR CADAVER USE ONLY Instruction and Service Manual REF: 8831-001

GENERAL DESCRIPTION

The *Zimmer* Tissue Bank Dermatome is an electrically powered instrument designed specifically for tissue retrieval procedures. **It is intended for use on cadavers only**, and not for living patients requiring skin grafts.

This instrument is designed for retrieving tissue in thicknesses ranging from 0 to .060 in. (0 to 1.52 mm) in .004 in. (.102 mm) increments. It also allows a choice of either 3 or 4 in. (7.6 and 10.2 cm) skin widths using the two width plates included. Two stainless steel machine screws secure the plates to the underside of the instrument. The plates are easily fastened and removed with the screwdriver provided.

This dermatome is powered by an ironless rotor, low inertia motor, which provides nearly vibration-free power.

SPECIFICATIONS

1. POWER SUPPLY

I. Physical:

Weight:	2.6 lb. (1.18 kg)
Dimensions:	9.12 in. (23.2 cm) Length 5.44 in. (13.8 cm) Height 6.69 in. (17.0 cm) Depth

II. Electrical:

Power Requirements:	100-240 V~ (Auto Switching) 150 VA, 50/60 Hz Single Phase
Power Output:	14.5 V⎓, 4.3 A Maximum

2. HANDPIECE

I. Physical:

Weight:	2.9 lb. (1.31 kg)
Dimensions:	9.75 in. (24.8 cm) Length 5.2 in. (13.2 cm) Width
Vibration and Shock:	Standard Commercial Practice
Cutting Speed:	5000–6000 Cycles/Minute

II. Electrical:

Power Requirements:	14.5 V⎓, Fully Regulated and Isolated, 4.3 A Maximum

UL 60601-1 Classification:

Type of protection against electrical shock	Class I
Degree of protection against electrical shock:	Type BF applied part
Classification according to the degree of protection against ingress of water:	IPXO
Mode of operation:	50% Duty Cycle, 10 minute maximum ON
Maximum operating ambient:	88°F (31°C)

STORAGE

The *Zimmer* Tissue Bank Dermatome has an operating temperature range of 50° to 88°F (10° to 31°C).

The following are environmental conditions for transportation and storage:

A. Ambient temperature range . . . . . .1°F to 149°F (–17°C to 65°C)

B. Relative humidity range . . . . . .10% to 80%

C. Atmospheric pressure range . . . .500 hPa to 1060 hPa

RECEIVING INSPECTION

After receiving the *Zimmer* Tissue Bank Dermatome, examine the unit for external signs of damage. Retain all packing material until the contents have been verified and an initial operational check has been performed. If the device has been damaged, forward an immediate request to the delivering carrier to perform an inspection and prepare a "Concealed Damage" report. The terms of all Zimmer Orthopaedic Surgical Products sales agreements concerning this unit are F.O.B., Dover, Ohio, U.S.A., and the responsibility of Zimmer Orthopaedic Surgical Products ends with delivery to the first carrier. Thereafter, the shipment becomes the property of the customer. Any claims for loss, damage, or non-delivery must be made against the delivering carrier within 10 days of shipment.

Your Zimmer distributor or local Zimmer representative will assist you in determining the cost of replacement or repair so that a proper claim may be filed with the delivering carrier.

Note: Do not attempt to return damaged goods without first securing proper authorization from the delivering carrier.

GENERAL PRECAUTIONS

This equipment is for use only by qualified tissue bank personnel. To avoid serious injury to the tissue bank staff when using the *Zimmer* Tissue Bank Dermatome, the operator must be thoroughly familiar with its function, application, and instructions before use. The handpiece and blade must be inspected for proper operation before use. If you have any questions, please contact your Zimmer representative.

Ground reliability can only be achieved when the hospital grade power cord is connected to a proper receptacle.

NEVER connect the *Zimmer* Tissue Bank Dermatome Handpiece to any source other than the *Zimmer* Tissue Bank Dermatome Power Supply. It has been factory calibrated to provide optimum cutting performance and maximum safety. It is also designed to meet or exceed specific medical electrical safety standards.

For continued protection against fire hazard, replace only with the same type and rating of fuse. (Refer to FUSES section.)

Possible explosion hazard exists if this instrument is used in the presence of flammable anesthetics or gases.

NEVER sterilize the power supply. Disconnect the dermatome handpiece from the power supply before sterilization.

WARNING AND CAUTION LABELS

See Fig. 3.

SYMBOL DEFINITIONS

See Fig. 4.

Zimmer TISSUE BANK Dermatome Components (REF 8831)

1. Power Supply (REF 8831-06)
2. Handpiece with cord (REF 8831-01)
3. Screwdriver (REF 8803)
4. Autoclave case (REF 8831-03)
5. Width plate, 3 in. (7.6 cm) (REF 8831-04)
6. Width plate, 4 in. (10.2 cm) (REF 8831-05)
7. Fuse drawer, 5 mm x 20 mm
8. Fuses, 1.25 A (Qty 2) (Installed)
9. Fuses, 1.25 A (Qty 2) (5 mm x 20 mm included)
10. Power Cord
11. Instruction and Service Manual

ZIMMER TISSUE BANK DERMATOME ILLUSTRATIONS

See Fig. 5–7.

BEFORE OPERATION

Connect the *Zimmer* Tissue Bank Dermatome to its power supply by inserting the connector plug into the connector receptacle. (See Fig. 8.) Disconnect the power supply from the power source before inserting. Remove any kinks or twists from the cord. Align the connector plug to the receptacle by rotating the plug while gently pushing inward. When aligned, push in until the plug clicks into the receptacle.

To remove the connector plug, pull outward on the outer collar portion of the plug to separate the plug from the receptacle.

To replace input fuses, disconnect the power supply from the power source. Remove the fuse drawer by lifting up on the tab using a tool and pulling the drawer outward. (See Fig. 9.) Replace the fuse drawer with the correct fuses installed. The correct fuse type is listed in the SERVICE INFORMATION section. The unit is shipped with a 0.25 in. (6.35 mm) x 1.25 in. (31.75 mm) fuse drawer installed. A separate fuse drawer is supplied for 0.197 in. (5 mm) x 0.787 in. (20 mm) fuses.

Before connecting the power supply to a power source, be sure that the switch on the front of the power supply is in the **OFF (O)** position, and that the safety lock is in the **SAFE** position. Connect to a power source via the "IEC" connector in the rear of the power supply

Turn power on to the power supply by moving the rocker switch on the front of the power supply to the **ON (I)** position. The rocker switch should illuminate. Move the safety lock to the **ON** position and briefly depress the on/off lever to ensure that power is being applied to the handpiece, and that the carriage is oscillating. Return the safety lock to the **SAFE** position.

OPERATING PRECAUTIONS

The on/off lever must be in the SAFE position before changing blades when the instrument is not in use, or when connecting power to the instrument. Accidental activation of the instrument during these procedures may injure the tissue bank personnel.

To avoid any injury, use extreme caution when handling the blade.

Use extreme caution when handling the dermatome with the blade installed. Before using, always inspect the cord for signs of wear or damage. A worn or damaged cord must be returned for service immediately for continued safety.

Use only *Zimmer* Tissue Bank Dermatome Blades (REF 8831-000-10). *Zimmer* Tissue Bank Dermatome Blades have been specifically designed for use with the *Zimmer* Tissue Bank Dermatome. Other blades will not fit properly in the dermatome and may cause deeper grafts than selected.

OPERATING INSTRUCTIONS

1. Place the power supply in the **OFF (O)** position. Place the dermatome in the **SAFE** position by sliding the safety lock on the on/off lever toward the blade end of the instrument to the **SAFE** position. Only the word **SAFE** should be visible.

2. Choose the proper width plate to satisfy cutting requirements. Two width plates are supplied: 3 and 4 in. (7.6, and 10.2 cm).

3. Install the blade. (Refer to Blade Placement diagram, (Fig. 7.) Use caution when inserting the blade to avoid nicking it, which may result in an uneven cut. Use a new sterile blade for each procedure.

   a. Place the on/off lever in the **SAFE** position.

   b. Using the Zimmer screwdriver (REF 8803), loosen the width plate screws approximately two turns. DO NOT remove screws from handpiece.

   c. Remove width plate and used blade.

   d. Place a new blade onto the carriage.

   e. Align the two holes in the blade with the two pins on the carriage.

   f. Place width plate over blade and tighten screws.

4. Control lever adjustment determines graft thickness. (See Fig. 10.) Factory markings indicate 0.004 in. (0.102 mm) divisions. Set control knob pointer to desired thickness. **A semi-annual calibration check by an authorized Zimmer Orthopaedic Surgical Products service center is recommended to verify continued accuracy.**

5. To activate the dermatome, place the power supply in the **ON (I)** position. Lift the on/off lever and slide the safety lock back to the **ON** position. Depress the on/off lever to start the motor. **DO NOT run the dermatome without cutting for an extended time**, as this needlessly wears the blade.

CUTTING THE GRAFT

1. Lubricating the donor site with sterile mineral oil or other lubricant may ease the travel of the *Zimmer* Tissue Bank Dermatome.

2. Hold the handpiece on the donor site at a 30–45 degree angle.

3. Depress the on/off lever to start the cut. Guide the unit forward using a slight downward pressure to ensure that the cutting edge remains in contact with the donor site.

4. Two methods of graft removal may be used:

a. Method I (see Fig. 11): Allow the cut graft to accumulate in the pocket of the handpiece. Lift the handpiece away from the donor site to end the graft Return the on/off lever to the **SAFE** position and carefully remove the graft.

b. Method II (see Fig. 12): Use tissue forceps to gently lift the graft as it emerges from the pocket area. **DO NOT** stretch or pull the graft as this causes irregular edges and nonuniform cuts. Lift the handpiece away from the donor site to end the graft. Return the on/off lever to the **SAFE** position.

5. **DO NOT** run the *Zimmer* Tissue Bank Dermatome without cutting for an extended time. Release the on/off lever and return the safety lock to the **SAFE** position between cuts to remove the graft.

CLEANING PRECAUTIONS

See Fig. 13–15.

DO NOT LUBRICATE THE *ZIMMER* TISSUE BANK DERMATOME. The dermatome contains sealed bearings. No lubrication is necessary.

NEVER IMMERSE THE *ZIMMER* TISSUE BANK DERMATOME in liquid chemical disinfectants, detergent solutions, or rinse water. Some solutions will corrode the metal, delicate moving parts, and seals.

DO NOT process the dermatome handpiece or cord in a washer/sterilizer.

NEVER CLEAN THE DERMATOME IN AN ULTRASONIC CLEANER. Ultrasonic cleaning will dislodge oil from the internal bearings and render the instrument inoperative.

HANDLE THE *ZIMMER* TISSUE BANK DERMATOME CAREFULLY. Should it be dropped or damaged, it should be returned to an authorized Zimmer Orthopaedic Surgical Products service center to ensure the integrity of calibration.

NEVER STERILIZE OR IMMERSE THE POWER SUPPLY.

CLEANING INSTRUCTIONS

Clean the power supply with a damp, lint-free cloth using a mild detergent. An alcohol wipe may be used to disinfect the surface of the power supply. **NEVER IMMERSE** the power supply.

Safely dispose of all used blades. Thoroughly scrub the dermatome and width plate(s) with a soft brush and mild detergent. All traces of blood, coagulated material, stains, etc. should be removed.

Rinse all detergent from the dermatome and width plate(s) under a faucet. **DO NOT IMMERSE IN LIQUID.**

Shake the dermatome and width plate free of water and wipe with a clean, lint-free cloth. An alcohol wipe may be used to disinfect the surface of the dermatome before steam sterilization.

Steam sterilize the *Zimmer* Tissue Bank Dermatome handpiece, width plates, and screwdriver. Follow the instructions in the STERILIZATION RECOMMENDATIONS section.

Always inspect the handpiece carefully for possible scratches, nicks, or burrs. Inspect the dermatome's cord for cuts or missing insulation caused by extended use or mishandling. If necessary, return for service to an authorized Zimmer Orthopaedic Surgical Products service center.

STERILIZATION RECOMMENDATIONS

Steam sterilization is safe and effective, and is the only recommended method for the dermatome. There are no contraindications for steam sterilizing the *Zimmer* Tissue Bank Dermatome handpiece.

NEVER sterilize the power supply. Disconnect the dermatome from the power supply before sterilization.

Place cleaned instruments in an instrument tray or fully perforated autoclave case. The *Zimmer* Tissue Bank Dermatome Autoclave Case (REF 8831-03) is recommended.

DO NOT kink or crimp the dermatome's cord when closing the case lid.

If the instruments are to be wrapped, two double thicknesses of #140 thread count wrappers, or equivalent, should be utilized. Exposure times are the same for wrapped or unwrapped instruments.

Follow the instructions for prevacuum steam sterilization or gravity air displacement steam sterilization listed below.

Prevacuum Steam Sterilization

If your prevacuum steam sterilizer has prefixed cycles, use the "hard goods" cycle.
If it does not have a prefixed cycle:
1. Set temperature at 270–272°F (132–133°C).
2. Set exposure time for 4 minutes.
3. Set drying time for 8 minutes minimum.

Gravity Air Displacement Steam Sterilization

1. Set the temperature and corresponding exposure time as follows:
   270–272°F (132–133°C) 35 minutes
   250–254°F (121–123°C) 60 minutes
2. Set the drying time for 8 minutes minimum.

DO NOT IMMERSE in liquid to cool. Cool by exposure to room temperature or cover with a cold, sterile towel.

SERVICE INFORMATION

Caution: Risk of electric shock. Do not remove cover. Return to an authorized Zimmer Orthopaedic Surgical Products service center for servicing. Do not attempt to disassemble the handpiece. It is a factory sealed unit with no user serviceable parts inside. Refer servicing to qualified service personnel.

DO NOT attempt to adjust the power supply. It has been factory calibrated to provide optimum cutting performance and maximum safety. It has been designed to meet or exceed specific medical electrical safety standards.

The *Zimmer* Tissue Bank Dermatome should be returned to an authorized Zimmer Orthopaedic Surgical Products service center every 6 months for inspection, preventive maintenance, and calibration.

FUSES

Input fuses are located in the fuse drawer in the power entry module at the rear of the power supply.

120 V~1.25 A time lag/delay

TROUBLESHOOTING GUIDE (TABLE 1)

PROBLEM	ACTION
DERMATOME NOT OPERATING. POWER LIGHT OFF.	CHECK INPUT FUSES. CHECK POWER CORD CONNECTIONS. RETURN FOR SERVICE.
DERMATOME NOT OPERATING. POWER LIGHT ON.	CHECK BLADE FIT. CHECK HANDPIECE CONNECTION TO POWER SUPPLY. RETURN FOR SERVICE.
DERMATOME OPERATING TOO SLOWLY.	CHECK HANDPIECE CONNECTION TO POWER SUPPLY.
ERRATIC SPEED CHANGES.	CHECK HANDPIECE CONNECTION TO POWER SUPPLY.

ACCESSORIES *ZIMMER* TISSUE BANK DERMATOME

See Fig. 16–23.

For further information contact your Zimmer sales representative or the Zimmer Customer Service Department at 800-348-2759 (inside the U.S.A.) or 574-267-6131 (outside the U.S.A.).

WARRANTY (U.S.A.)

Zimmer Orthopaedic Surgical Products warrants that the *Zimmer* Tissue Bank Dermatome, along with all parts and accessories, have been tested and inspected, and have left the factory in proper working condition, free from visible defects.

Zimmer Orthopaedic Surgical Products warrants to the first purchaser of the *Zimmer* Tissue Bank Dermatome, Width Plates, Screwdriver, and Power Supply that these products and accessories will, under normal and reasonable use, be free from defects in material and workmanship for one (1) year after the date of shipment from the factory. The *Zimmer* Tissue Bank Dermatome Blades are warranted to be free from defects in material and workmanship upon delivery. During the warranty period, Zimmer Orthopaedic Surgical Products shall repair (or at its sole option replace) the defective product or part without cost to the purchaser. Defective parts replaced under this warranty shall become the property of Zimmer Orthopaedic Surgical Products. This warranty does not cover damage caused by misuse, abuse, accident, neglect, or any uses not prescribed in this manual. If the unit becomes defective because of misuse or abnormal conditions of operation, repairs will be billed at our current rate.

ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN TIME TO THE PERIOD OF THE WARRANTY GRANTED HEREBY. SOME STATES DO NOT ALLOW LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

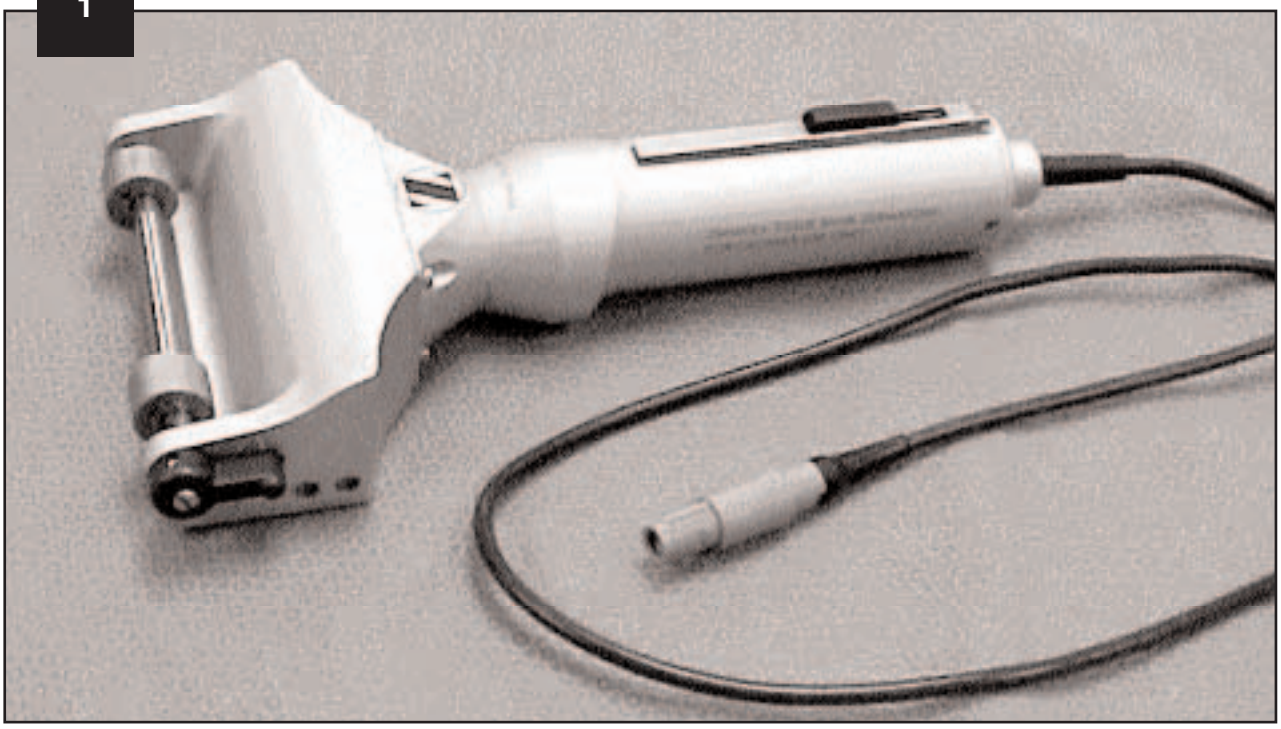
Neither Zimmer Orthopaedic Surgical Products nor the Zimmer distributor who sells the *Zimmer* Tissue Bank Dermatome is responsible for indirect, incidental, or consequential damages. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Zimmer Tissue Bank Dermatomes requiring service or repair may be returned to Zimmer Orthopaedic Surgical Products, 200 West Ohio Avenue, Dover, Ohio, U.S.A. 44622. A purchase order and return goods authorization number must accompany all equipment for repair. The customer will be responsible for all shipping charges. For further information concerning warranties and repairs, contact your Zimmer sales representative or the Zimmer Customer Service Department at 800-348-2759 (inside the U.S.A.) or 574-267-6131 (outside the U.S.A.).

WARRANTY (Outside U.S.A.)

Please contact your local Zimmer representative for warranty information.

1



2

A. Autoclave Case
B. Power Supply
C. Screwdriver
D. Width Plates
E. Handpiece

3 WARNING AND CAUTION LABELS

⚠ WARNING

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE ONLY WITH THE SAME TYPE AND RATING OF FUSE:

POWER INPUT: 150VA
100–240V~, 50/60 Hz 250V~: T1.25A

WARNING

THE TISSUE BANK DERMATOME IS INTENDED FOR USE ON CADAVERS ONLY, AND NOT FOR LIVING PATIENTS REQUIRING SKIN GRAFTS.

4 SYMBOL DEFINITIONS

A. Type of Equipment

B. Direct Current

C. Year of Manufacture

D. OFF (Power: Disconnection from the Mains)

E. On (Power: Connection to the Mains)

F. Alternating Current

G. Protective Earth (Ground)

H. Potential Equalizing Conductor (Ground)

I. *Zimmer* Dermatome Handpiece

J. Attention, Consult Accompanying Documents

MEDICAL EQUIPMENT
WITH RESPECT TO ELECTRIC SHOCK, FIRE, AND MECHANICAL HAZARDS ONLY, IN ACCORDANCE WITH UL 60601-1, CAN/CSA C22.2 No. 601.1, AND IEC 60601-1

2R52

K. Conformity Marking for Underwriters Laboratories, Inc. UL 60601-1 Standard

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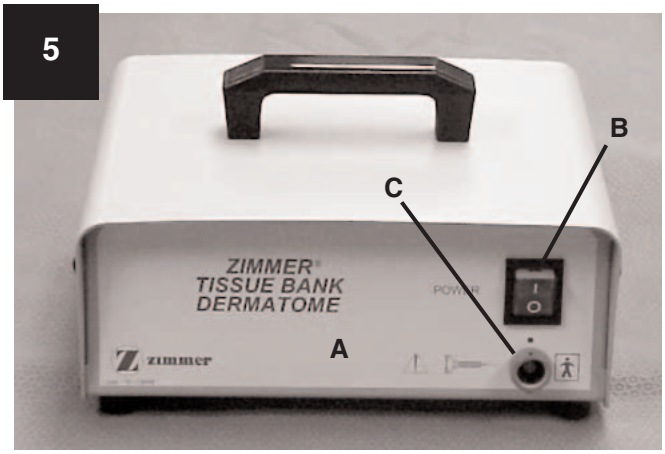

Power Supply

A. Front
B. Mains Switch
C. Connector Receptacle
D. Power Entry Module
E. Back

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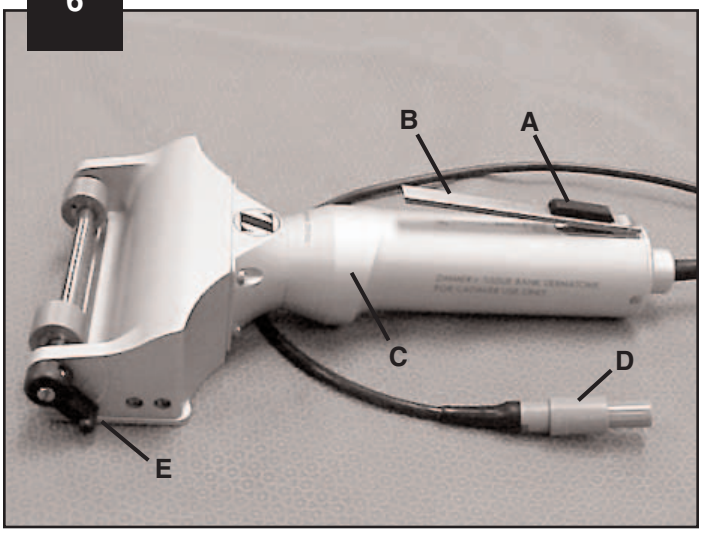

Handpiece

A. On/Off Safety Lock
B. On/Off Lever
C. Handpiece
D. Connector Plug
E. Thickness Control Lever

8

9

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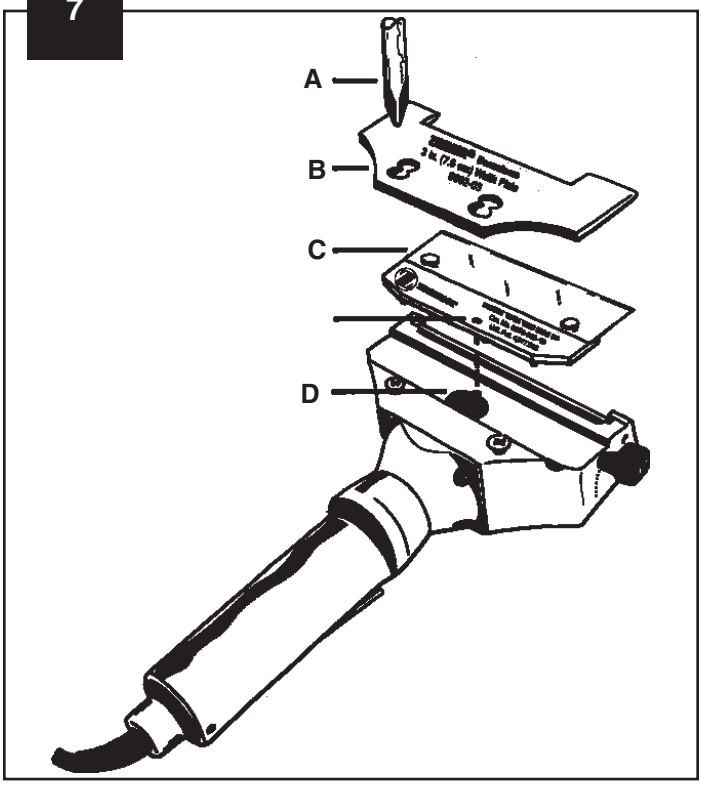

Blade Replacement

A. Screwdriver
B. Width Plate
C. Blade
D. Carriage

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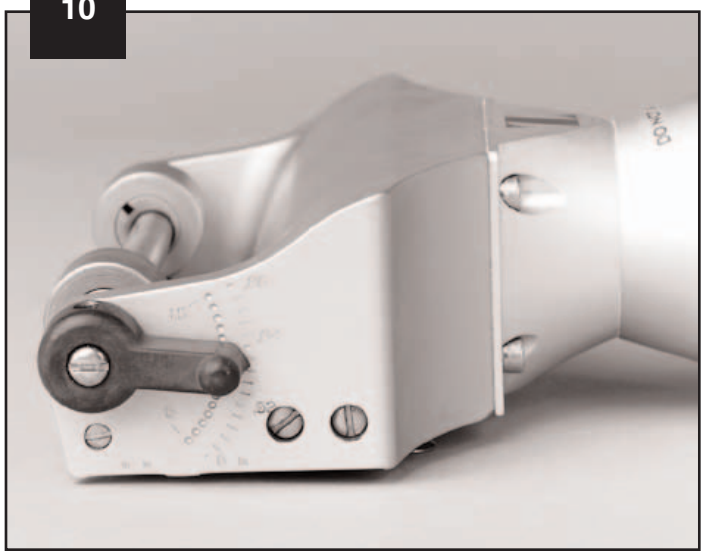

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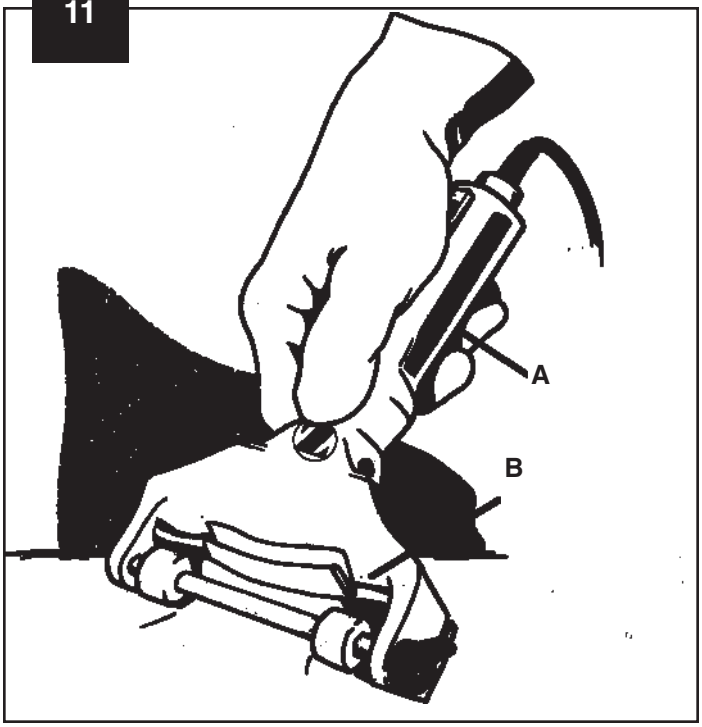

METHOD I

A. Handpiece
B. Pocket

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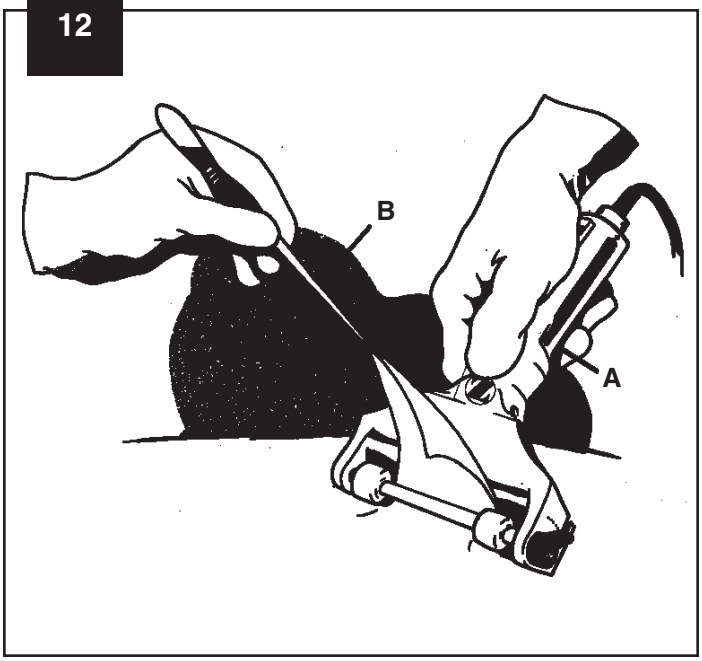

METHOD II

A. Handpiece
B. Forceps

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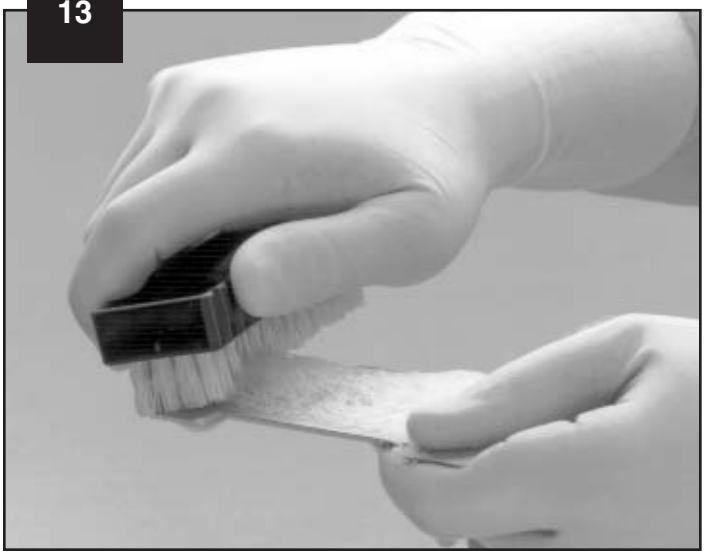

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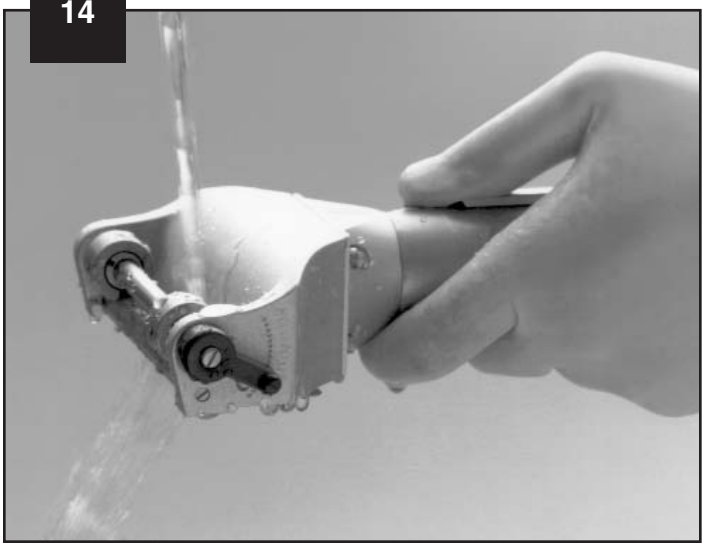

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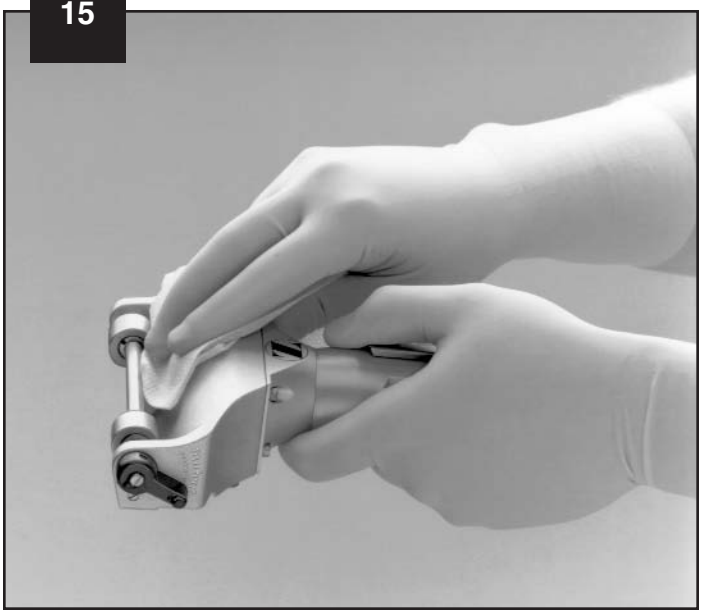

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REF 8831
DESCRIPTION:
***Zimmer* Tissue Bank Dermatome Complete**
(includes 8831-01, 8821-06, 8831-03)

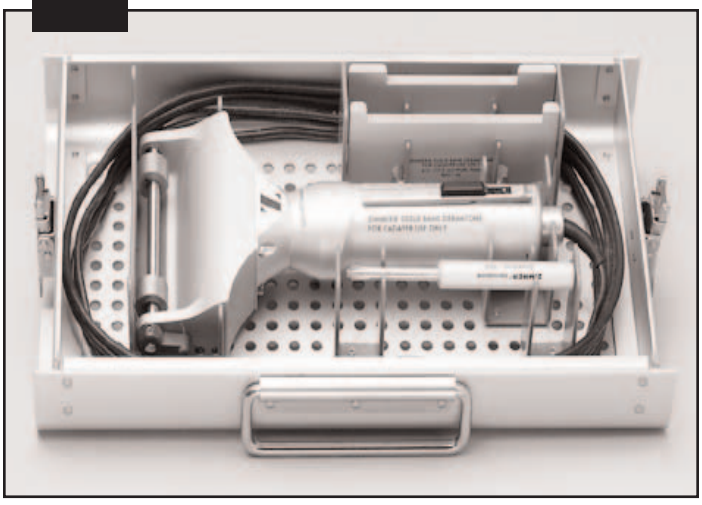
17

REF 8831-01
DESCRIPTION:
Handpiece
(includes 8831-04, 8831-05, 8803)

18

REF 8831-06
DESCRIPTION: Power Supply

19



REF 8831-03
DESCRIPTION: Autoclave Case

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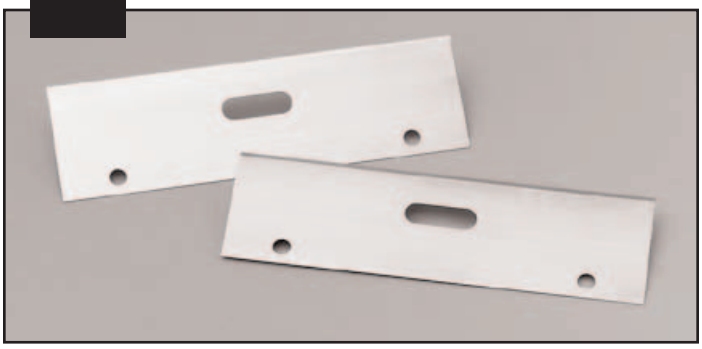

REF 8831-000-10
DESCRIPTION:
Zimmer **Tissue Bank Dermatome Blades, Sterile (10 per box)**

21

REF 8803
DESCRIPTION:
Screwdriver

22

REF 8831-04, 8831-05
DESCRIPTION:
Width Plates

23

REF 8803-001-10
DESCRIPTION:
Width Plate Screws (10 per pack)

Revised: 05-05
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Printed in U.S.A.
18-10620
Printed on Recycled Paper

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